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ANALYSIS OF NOTABLE BEHAVIOR FOR MODERN RICE VARIETY USERS AND PROBABLE CHALLENGES IN NETROKONA HAOR AREAS OF BANGLADESH

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ABSTRACT

A study was conducted at Jalalpur and Bishnupur villages of Kandiura union of Kendua Upazila under Netrakona district of Bangladesh. Data were collected from 127 farmers who were randomly selected as the sample of the study by using random sampling method. The researcher himself collected data through personal contact with a well-structured pretested interview schedule during the period from 17th February to 30th March, 2008. The study critically analysis the salient features of the rice growers and major challenges that may be regarded as the barriers for modern rice cultivations. Farmers indicated that there were 08 (eight) problems that created troubles in the adoption of modern rice varieties. Out of these, three problems in order to importance were: i) Unavailability of fertilizer in growing season ii) Irrigation crisis in dry season and iii) problem of cash money. It was also found that majority i.e. 78.74 percent of the farmers were faced medium problems, while 11.02 percent and 10.24 percent farmers were faced minor and severe problem respectively.

Key words: Analysis, behavior, modern rice growers, haor areas.

Introduction

At present, in Bangladesh, food demand is increasing fast due to increasing of population. So, to meet this demand of food, it is quite essential to increase the production and yield of food grains as well as rice. Agricultural intensification, to minimize food shortage and maximize self-sufficiency in food grains (rice) production is possible only when adoption of modern rice varieties and other related improved technologies. The total area of cultivable land in Bangladesh is about 82.90 lakhs hectre (BBS, 2006). But unfortunately, this area is decreasing day by day due to increasing population and urbanization. As a result, the production and yield of agricultural crops decreasing. Also fact that food demand is deteriorating fast with the growth of population at an alarming rate. Karim (1996) showed that the population in Bangladesh was 108.53 million in the year of 1990 and it would be 163.3 million and 189.9 million in the year 2010 and 2030 AD respectively. The consumption needs of cereals would be from 18.44 million tons to 26.13 million tons and 32.37 million tons in those years respectively. Of all agricultural crops rice is the major or staple food crop in Bangladesh. About 90 percent of the total population in the country depends on rice as their major food (IRRI, 1981). So, production of rice must be increased to meet the consumption need. For wider adoption of modern rice varieties, it is necessary to have a clear understanding of the present position in respect of the use of modern rice varieties by the farmers. It is also necessary to have an understanding of the factors related to the adoption of modern rice varieties. An understanding of the relationship of the farmer's attitude with their selected characteristics will be helpful to the planners and extension workers for promoting better action among the farmers who are concerned with the technology. On the basis of problem stated above, the following objectives would be taken into consideration for giving proper direction to the study: i) to analyze the selected characteristics of the modern rice growers and ii) To determine the problems faced by the farmers during adoption and cultivation of modern rice varieties.

Materials and Methods

The study area was situated 32 km south away from the Netrakona town and was surrounded by Netrakonasadar, Atpara, Madan, Tarail (Kishoreganj), Ishwarganj, Nandail and Gouripur (Mymensingh)

upazilas. For the purpose of data collection, an interview schedule was prepared. The schedule contained both open and closed form of questions. Data were collected personally by the researcher himself through face-to-face interview of all the selected farmers of the study area. The interview schedule prepared earlier was used for collecting data. All possible efforts were made to explain the purpose of the study to the respondents by using local language to the extent possible and rapport was established with the farmers to get valid and pertinent information from them. To keep the research within the manageable sphere, ten distinguished characteristics were selected for the study. A scale was prepared to indicate the extent to which each of the eight problems was applicable in the case of a respondent. The responses were obtained through a 4-point scale: severe, medium, minor and not at all were assigned to these responses as 3,2,1 and 0, respectively.

Extent of Problem	Scoring system
Severe	3
Medium	2
Minor	1
Not at all	0

In order to determine the comparative importance of the eight problems, a Problem Confrontation Index (PCI) was computed for each of the eight problems by summing up the scores assigned for responses of all the respondents against each problem. Problem confrontation scores could range from 0 to 24, where 0 indicated no problem and 24 indicated severe problem. Appropriate scoring techniques were followed to convert the qualitative data into quantitative forms. These were then tabulated according to the objectives of the study.

Statistical analysis: The collected raw data were compiled, coded, tabulated and analyzed in accordance with the objectives of the study. Qualitative data were quantified by means of suitable scoring techniques. The statistical measures such as range, mean, standard deviation, percentage distribution and rank order were used. Tables were also used in presenting data for clarity of understanding.

Results and Discussion

Age: Age of the farmers ranged from 25 to 61 years. The average being 42.52 years with a standard deviation of 7.98 (Table 1). The highest proportion (66.93 percent) of the farmers were middle aged, while 19.69 percent were young aged and the rest 13.38 percent were old aged category.

Level of education: Results presented in the table indicated that the highest proportion (41.73 percent) of the farmers belonged to primary level of education compared to 33.86 percent of secondary and 8.66 percent of above secondary level of education. On the other hand 15.75 percent farmers were belonged to Illiterate category. The overwhelming majority (84.25 percent) of the Respondents were literate from primary to above secondary. This finding also indicated that the respondents had relatively higher level of education than the national level, which is 50.3 percent on an average (Agricultural Diary, 2007). Education is the process of producing desired change in behavior people. It produces changes in the attitude and action, helps the farmers to broaden their outlook and expand their mental horizon by helping them to develop favorable altitudes, correct perception an 0 objective assessment. An educated individual is likely to be more receptive to the modem facts and ideas; they have higher mental strength in deciding on a matter related to the problem solving or adoption of new technologies in their daily life. Hence educations provide favorable change to the farmers to use or practice or adopt new ideas like modern varieties of crops. Thus, farming community in the study area cab be considered as a suitable location for the adoption of new technologies or execution of changed programmer where needed.

Family size: Data indicated that the average size of family (5.91) of the respondent has higher than the national average 5.6 (BBS, 1999). The findings also mentioned that 82.68 percent of respondent had small

to medium sized family. Parvez (2007) also found the similar findings in his study. The study area was a flood prune area of the country. For this reason, the people always try to live in a limited area jointly. Thus highest range of family member was 13.

Table 1. Salient features of the respondents with their characteristics

Characteristics	Measuring Unit	Observed Value	Categories	Farmers		Mean	SD
				N=127	%		
Age	Actual years	25-61	Young aged (up to 35)	25	19.69	42.52	7.98
			Middle aged (36-49)	85	66.93		
			Old aged (above 49)	17	13.38		
Level of education	Year of schooling	0-12	Illiterate (0-0.5)	20	15.75	5.36	3.49
			Primary (1-5)	53	41.73		
			Secondary (6-10)	43	33.86		
			Above secondary (above 10)	11	8.66		
Family size	Score	2-13	Small (up to 4)	43	33.86	5.91	2.40
			Medium (5-9)	62	48.82		
			Large (above 9)	22	17.32		
Farm size	Actual (hactre)	0.16-3.25	Marginal (0.02-0.20)	13	10.24	1.27	0.78
			Small (0.21-1.0)	37	29.13		
			Medium (1.1-3.0)	75	59.05		
			Large (above 3)	02	1.58		
Annual Income	Taka (000)	40-365	Low income (up to 90)	25	19.68	139.88	61.25
			Medium income (91-200)	83	65.35		
			High income (above 200)	19	14.97		
Agricultural knowledge	Scores	0-39	Poor (up to 21)	22	17.32	26.05	4.00
			Moderate (22-29)	76	59.85		
			Higher (above 29)	29	22.83		
Organizational participation	Scores	0-10	No participation (0)	26	20.47	2.95	2.02
			Low participation (1-2)	16	12.60		
			Medium participation (3-4)	64	50.40		
			High participation (above 4)	21	16.53		
Communication exposure	Scores	18-45	Low (up to 30)	34	26.77	34.26	5.91
			Medium (31-40)	77	60.63		
			High (above 40)	16	12.60		
Cosmopoliteness	Scores	5-15	Low (upto 7)	25	19.69	9.43	2.28
			Medium (8- 11)	79	62.20		
			High (< 11)	23	18.11		
Problem confrontation	Scores	6-19	Minor problem (up to 8)	14	11.02	11.08	2.92
			Medium problem (9-15)	100	78.74		
			Severe problem (above 15)	13	10.24		

Farm size: Farm size of the farmers ranged from 0.16 to 3.25 hectres with an average of 1.27 and the standard deviation was 0.78. The highest proportion (59.05 percent) of the respondents had medium sized farm compared to 29.13 percent having small farm, 10.24 percent and 1.58 percent having marginal and large farm respectively.

Annual income: Annual income scores of the farmers ranged from 40 to 365 thousand taka with an average of 139.88 and the standard deviation was 61.25. The highest proportion (65.35 percent) of the farmers had medium income compared to 19.68 percent had low income and 14.97 percent had high income.

Agricultural knowledge: The highest proportion (59.85 percent) of the respondent belonged to moderate agricultural knowledge compared to 22.83 percent had higher and 17.32 percent had poor agricultural

knowledge respectively. Nurzaman (2000) and Hoque (2001) reported similar types of findings in their studies. The present study indicated that for-fifth (82.68 percent) of the farmers were with moderate to higher agricultural knowledge in the study area. Infact, the farmers were supposed to get enough information and that increased their agricultural knowledge. Agricultural knowledge helps to the farmers to grow crops with modern varieties and other improved technologies. As the literacy rate of the respondents was high, so their agricultural knowledge also relatively higher.

Organization participation: Organizational participation scores of the respondents ranged from 0 to 10 against the possible score of 0 to 24 with an average of 2.95 and the standard deviation 2.02. The highest proportion (50.40 percent) of respondents had medium participation compared to 20.47 had no participation, 16.53 percent had high participation and 12.60 percent had low participation.

Communication exposure: The communication exposure scores of the farmers ranged from 18 to 45 against the possible range of 0 to 64. The average communication score was found to be 34.26 with a standard deviation of 5.91. The highest proportion (60.63 percent) of the respondents had medium communication exposure compared to 26.77 percent having low and only 12.60 percent with high communication exposure.

Cosmopoliteness: Cosmopoliteness scores of the farmers ranged from 5 to 15 against the possible range of 0 to 18. The average cosmopoliteness score was found to be 9.43 with the standard deviation of 2.28. The highest proportion (62.20 percent) of the farmers had medium cosmopoliteness compared to 19.69 percent having low cosmopoliteness and only 18.11 percent having high cosmopoliteness.

Problems faced by the farmers in adopting modern rice cultivation: The purpose of this section was to have an understanding on the problem faced by the farmers of the study area in cultivating modern rice varieties. The farmers were asked to mention the specific problems concerned faced by them. As many as eight problems were mentioned by the farmers of the study area. These problems were rank ordered through computing Problem Confrontation Index (PCI). PCI score ranged from 193 to 381 against possible range of 0 to 381. Identified problems with their PCI score and rank order are presented in Table 2. PCI was calculated through the following formula-

PCI = S x 3 + M x 2 + Mi x 1 + N x 0

S =Severe problem
M = Medium problem
Mi = Minor problem
N = Not at all
PCI = Problem Confrontation Index

Table 2. Rank order of the problem faced by the farmers in adopting modern rice varieties

Problems	Extent of problems					Ranks
	S	M	Mi	N	PCI	
Problems of case money	75	30	12	10	237	3
Irrigation crisis in dry season	115	7	5	0	364	2
Inadequate supply of pesticide in the pick period	40	35	40	12	230	6
Unavailability of fertilizers in the growing season	127	0	0	0	381	1
Inadequate help from the AAEO	66	31	1	12	278	4
Unavailability of bank lond for cultivation	50	57	10	10	274	5
Cannot read the written information due to illiteracy	56	10	5	56	193	8
Lack of training facility	30	45	15	37	195	7

The farmers expressed some problems as for adoption of modem rice varieties. An attempt was made to identify the problems faced by the farmers in adopting modern rice varieties. As many as eight problems were mentioned by the farmers in adoption modern rice varieties. Problem confrontation scores of the respondents ranged from 6 to 19 against the possible score of 0 to 24. Highest proportion (78.74 percent) of the respondents faced medium problem compared to 11.02 percent of the respondents faced minor problem and 10.24 percent of the respondents faced severe problem (Table 1).

In the area of human behavior, it is important to know that the nature of human behavior is very complex and the personality with its high complex component manifests itself in different kinds of behavior. Again, there are a number of factors, such as, superstitions, believes, traditions or customs that often act as resistant forces, to a greater extent the extension personnel should continuously try to bring about desirable change in the people's attitude and establish a healthy relationship between them by all possible means. It is therefore, concluded that extension workers should deal adequately with the farm people through various teaching methods and rightly considers those characteristics of the farmers, which have some bearing on these activities.

Conclusion

Farmers faced considerable problems in connection with adoption of modern rice varieties. It is therefore, recommended that concerned authorities should give attention to solve the problems as soon as possible.

Recommendation for policy implications

Based on the findings and conclusions of the study, the following recommendations are recommended for policy makers:

1) It is recommended that the extension workers should work with the farmers of all age groups to promote adoption of modern rice varieties. However, they will have to work with comparatively larger number of middle-aged farmers as majority of the farmers belonged to middle aged group.
2) It was observed that majority (87.4 percent) of the farmers of the study sample had low to medium communication exposure. The Department of Agricultural Extension (DAE) and other community development related organizations should give due cognizance of these facts and take steps to increase contact of the farmers with extension workers and other sources of information.
3) The majority (81.89 percent) of the farmers had low to medium cosmopoliteness. Therefore, it is recommended that the extension workers should mobilize the farmers for increasing their cosmopolite behavior in order to facilitate their adoption of modern rice varieties.

Recommendation for further study

1) The present study was conducted in the selected villages namely Jalalpur and Bishnupur of Kandiura union of Kendua upazila under Netrakona district. So, similar attempts may be undertaken in other parts of the country to verify the study.
2) The present study has been carried out among the male farmers only. So, a similar study may be conducted with the farm women to examine their views and opinions regarding the adoption of modem rice varieties.

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